TEMPORARY PEDESTRIAN FACILITIES HANDBOOK

Caltrans

April 2011

This handbook is for informational purposes only.

NOTE: The information is for workers in the field for accommodation of pedestrians with disabilities through and around work zones.

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Introduction

Caltrans maintains safe and convenient access for users of its roads and highways. The needs and control of road users are an essential part of highway construction, utility work, maintenance operations, and management of traffic incidents through a temporary traffic control zone. We have developed this handbook to help field staff accommodate pedestrians—including persons with disabilities, as described in the *Americans with Disabilities Act Accessibility Guidelines* (ADAAG)—through and around work zones.

Related Caltrans Standards

- Section 7-1.02A, "General," of the 2010 *Standard Specifications* requires the contractor to comply with current laws, regulations, and decrees.
- Section 7-1.04, "Public Safety," requires that the contractor provide for the safety of the public during construction.
- Section 12, "Maintaining Traffic," directs the contractor's attention to the *California Manual on Uniform Traffic Control Devices* (CA MUTCD).
- Standard Special Provision 12-150, "Maintaining Traffic," requires the contractor to maintain pedestrian access.

If the contractor's operation requires the closure of one accessible pedestrian facility, provide a travel path that replicates, if possible, the most desirable characteristics of the existing walk way. Take special care to consider areas in school or senior citizen center locations.

When affected by construction, the contractor should maintain a continuous unobstructed path connecting all existing accessible elements (parking lots, bus stops) through the project.

Provide advanced notification of sidewalk closures.

Keep pedestrian facilities clear of obstructions. Traffic control devices, equipment and other construction materials and features must not intrude into the usable width of the sidewalk, temporary pathway, or other pedestrian facility. Signs and other devices mounted lower than seven feet above the temporary pedestrian pathway should not project more than four inches into accessible pedestrian facilities.

In addition to required openings through falsework, provide accessible pedestrian facilities during pile driving, footing, wall, and other bridge construction operations where an accessible route was available before construction began.

Provide hand railings on each side of pedestrian walkways as necessary to protect pedestrian traffic from hazards from construction operations. Maintain railings and walkways in good condition.

Provide protective overhead covering as necessary to ensure protection from falling objects and dripping from overhead structures.

The resident engineer may require a pedestrian traffic handling plan if the affected facility is not identified in the contract plans. The contractor is responsible for accommodating pedestrians through the temporary traffic control (TTC) whenever the work disrupts pedestrian facilities.

California MUTCD Requirements

The following three items should be considered when planning for pedestrians in TTC zones:

- ✓ Pedestrians should not be led into conflicts with work site vehicles, equipment, and operations.
- ✓ Pedestrians should not be led into conflicts with vehicles moving through or around the work site.
- ✓ Pedestrians should be provided with a reasonably safe, convenient, and accessible path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or footpath(s).

Do not sever or move a pedestrian route for non-construction activities such as parking for vehicles and equipment.

Place a barrier detectable by a person with a visual disability traveling with the aid of a long cane across the full width of the closed sidewalk they would normally use.

Unless a reasonably safe route that does not involve crossing the roadway can be provided, advance signing should appropriately direct pedestrians to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, place these signs at intersections. Midblock work sites should not induce pedestrians to attempt skirting the work site or make a midblock crossing. (See Figures 1 and 2 on the next page.)

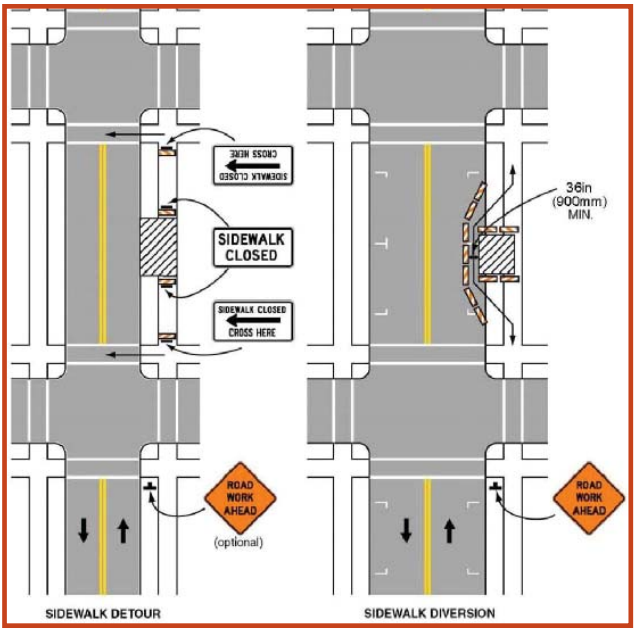


Figure 1 Sidewalk Detour or Diversion

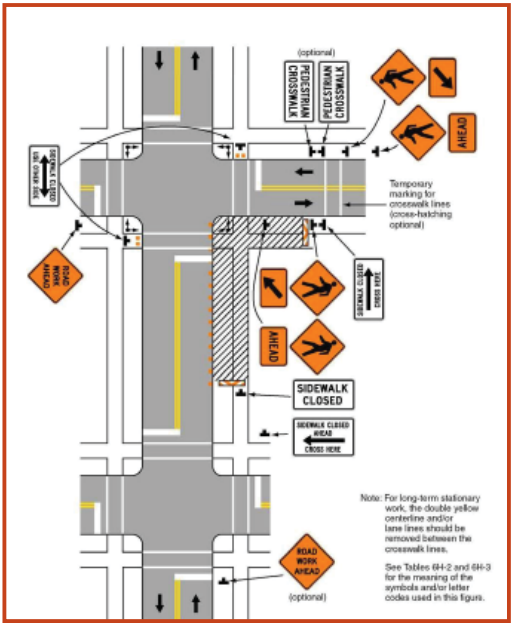


Figure 2 Crosswalk Closures and Pedestrian Detours

Consider separating pedestrian movements from both work site activity and vehicular traffic. When pedestrians are routed adjacent to live traffic, provide barrier protection to prevent vehicles from entering the pedestrian facility.

Do not use tape, rope, or plastic chain strung between devices as controls for pedestrian movements. They are not readily detectable.

Where barricades channel pedestrians, use continuous detectable bottom and top rails with no gaps between individual barricades for users of long canes. The bottom of the bottom rail must be no higher than six inches above the ground surface. The top of the top rail must be at least 36 inches above the ground. Refer to Part 6, Sections 6F.58 and 6F.63 of the California MUTCD.

If drums, cones, or tubular markers channel pedestrians, locate them so no gaps exist between the bases of the devices to create a continuous bottom. The height of each drum, cone, or tubular marker must be no less than 36 inches to be detectable to users of long canes. Refer to Part 6, Sections 6F.58, 6F.59, 6F.60, and 6F.62 of the California MUTCD.

Whenever feasible, temporary pedestrian facilities should follow the ADA checklist later in this handbook. Document the reasons why an item does not.

Permanent Facilities

Construct permanent new facilities and alterations to existing facilities according to the contract plans and specifications.

Additional resources for consideration:

- Caltrans Design Information Bulletin 82-04, “Pedestrian Accessibility Guidelines for Highway Projects,” which addresses requirements for new construction and alterations of existing facilities.
- Standard Plans A88A, A88B, A90A, A90B, ES-4C, ES-5C, and ES-7A
- Contact the district design unit to develop plans for any permanent facility to be added by contract change order.

During the inspection process, check that all contractor-installed finished elements comply with dimensions and installation requirements. Check all slopes using a smart level at least two feet long.

Do not exceed any of the maximums shown in the requirements. They are absolute.

ADA Checklist

Whenever feasible, temporary pedestrian facilities should follow this ADA checklist. Document the reasons why item does not.

Accessible Route Basics

- □ The path must be stable, firm, and slip resistant. Pedestrian facilities must be surfaced with asphalt concrete, portland cement concrete or timber. Dirt is not an acceptable surface.

- □ The surface should be smooth and continuously hard throughout the entire length of the temporary pedestrian facility. No curbs or abrupt changes should exist in grade or terrain that could cause tripping or be a barrier to wheelchair use.

- □ Surface discontinuities must not exceed a ½ inch maximum. Vertical discontinuities between ¼-inch to ½ inch should be beveled at a maximum of 2:1 or flatter, and bevels should be constant across the entire level change. New surfaces must not have vertical surface discontinuities. Curb ramps, landings, and gutter areas must not have surface discontinuities. (See Figure 3 below.)

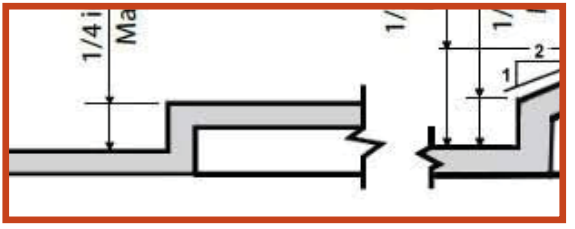


Figure 3 Surface Discontinuities

- □ On pedestrian access route joints and gratings, surface openings must not permit passage of a sphere more than 1/2 inch. Place horizontal surface openings so that the long dimension is perpendicular to the dominant direction of wheelchair travel.

- □ The cross slope must be no greater than 1:50 (2 percent).

- □ The running slope must be no greater than 1:20 (5 percent). Otherwise, meet the ramp requirements discussed below.

- Maintain a width of 60 inches throughout the pedestrian pathway. (See Figure 4 below.)

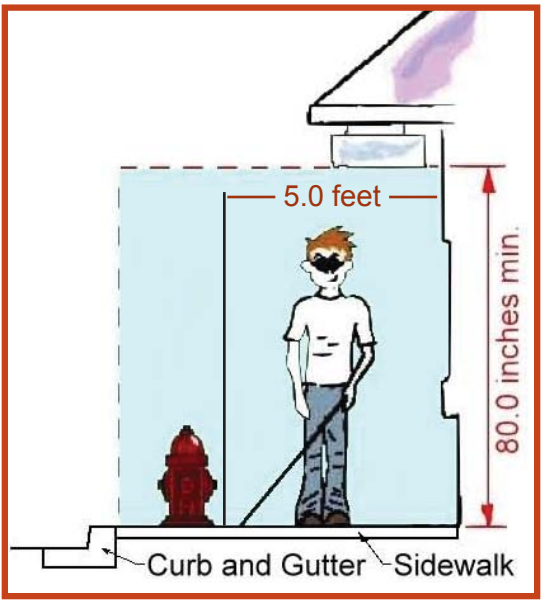


Figure 4 Pedestrian Path Width

- When it is not possible to maintain a width of five feet, provide a 60 x 60-inch passing space at least every 200 feet to allow individuals in wheelchairs to pass. (See Figure 5 below.)

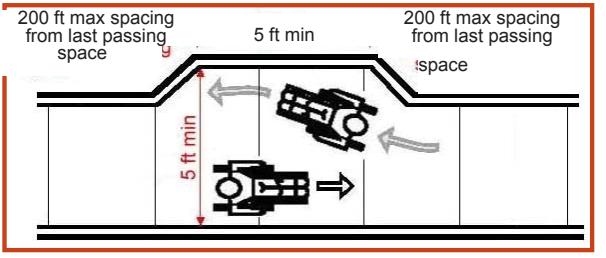


Figure 5 Passing Space

- The path must have a clear width of no less than 48 inches. Verify that no fixed objects (cabinets, poles, and so forth) will reduce the path width at any point. (See Figure 6 below.)

Figure 6 Minimum Path Width

- □ Objects must not protrude into the path. Check with the project engineer for exceptions.
- □ Signs and other devices mounted lower than seven feet above the temporary pedestrian pathway should not project more than four inches into accessible pedestrian facilities Refer to Part 6, Section 6D.02 of the California MUTCD. (See Figure 7 below.)

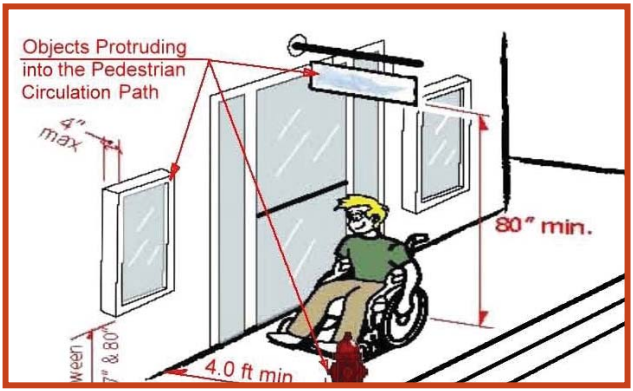


Figure 7 Protruding Objects

- □ Vertical clearance must be 80 inches.

- □ If the path requires a 180-degree turn, the turning pad must be at least 60 inches deep. (See Figure 8 below)

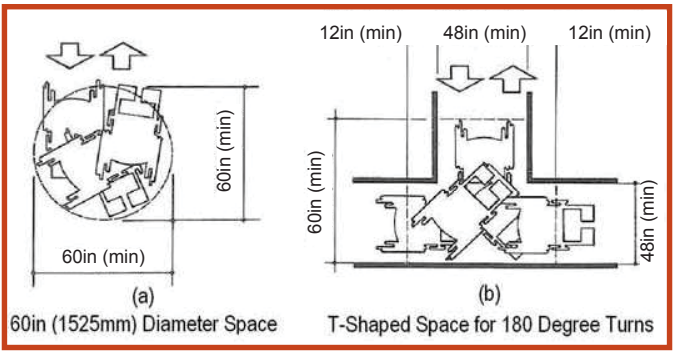
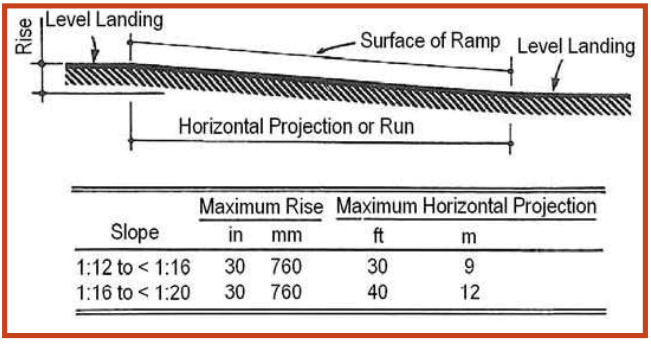


Figure 8 (ADAAG) Wheelchair Turning Space

- □ Provide access to nearby temporary transit stops.
- □ Pedestrians with disabilities may need temporary nighttime lighting. Refer to contract plans and specifications for requirements.

Ramps

- □ The cross slope must be no greater than 1:50 (2 percent).
- □ The running slope must be no greater than 1:12 (8.33 percent).
- □ Each ramp must have level landings at the bottom and top. A landing must be as wide as the run leading to it and have a minimum length of 60 inches. (See Figure 9 below.)



Slope	Maximum Rise		Maximum Horizontal Projection	
	in	mm	ft	m
1:12 to < 1:16	30	760	30	9
1:16 to < 1:20	30	760	40	12

Figure 9 (ADAAG)
Components of a Single Ramp
and Sample Ramp Dimensions

- □ Ramps must have hand railings, and edge protection.

Curb ramps to be constructed on sites or facilities where space limitations prohibit the use of a 1:12 slope or less may have slopes and rises as follows:

- A slope between 1:10 and 1:12 is allowed for a maximum rise of 6 inches.
- A slope between 1:8 and 1:10 is allowed for a maximum rise of 3 inches.

A slope steeper than 1:8 is not allowed.

Scaffolding

- Keep pedestrian facilities clear of obstructions. Traffic control devices, equipment, and other construction materials and features must not intrude into the usable width of the sidewalk, temporary pathway, or other pedestrian facility. Signs and other devices mounted lower than seven feet above the temporary pedestrian pathway should not project more than four inches into accessible pedestrian facilities.
- In addition to required openings through falsework, provide accessible pedestrian facilities during pile driving, footing, and wall and other bridge construction operations where an accessible route was available before construction began.
- Provide hand railings on each side of pedestrian walkways as necessary to protect pedestrian traffic from construction operations hazards. Maintain railings and walkways in good condition.
- Provide necessary protective overhead covering to ensure protection from falling objects and dripping from overhead structures.

Pedestrian Signal Buttons

- The pedestrian signal button must have an unobstructed forward reach. For the height of the button, refer to the Standard Plans. (See Figure 10 below.)

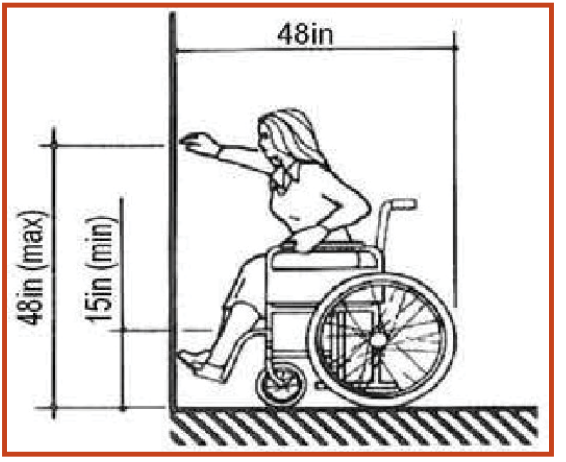


Figure 10 (ADAAG) High Forward Reach

- If the pedestrian button requires a side reach, obstructions at bottom cannot extend more than 24 inches from base. For the height of button, refer to the standard plans (See Figure 11 below.)

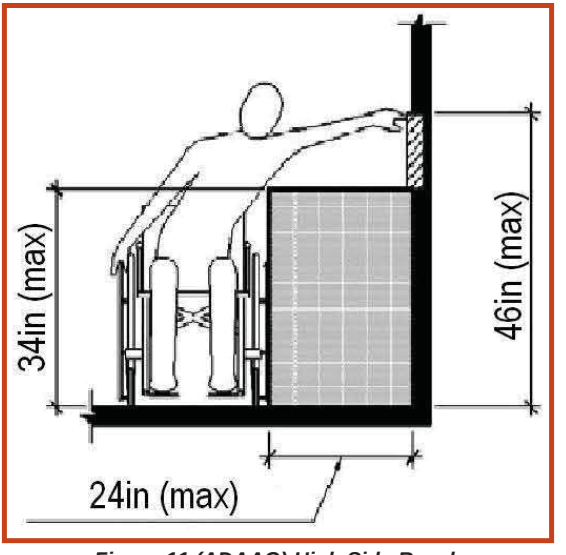


Figure 11 (ADAAG) High Side Reach

Audible Alerts

A wide range of pedestrians might be affected by temporary traffic control (TTC) zones, including the young, elderly, and people with disabilities such as hearing, visual, or mobility. These pedestrians need a clearly delineated and usable travel path.

- A speech message by an audible information device is the most desirable way to provide information equivalent to visual signage for notification of sidewalk closures to pedestrians with visual disabilities.

Devices that provide speech messages in response to passive pedestrian actuation are the most desirable. Other devices that continuously emit a message or a message in response to use of a pushbutton are also acceptable. Signage information can also be transmitted to personal receivers, but currently pedestrians with visual disabilities are not likely to carry or use such receivers in TTC zones.

- Audible information devices might not be needed if detectable channelizing devices make an alternate route of travel evident to pedestrians with visual disabilities.

- A pushbutton used to provide equivalent TTC information to pedestrians with visual disabilities should be equipped with a locator tone to notify them that a special accommodation is available and help them locate the pushbutton.


SIDEWALK
CLOSED
100 FT